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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,206	03/23/2004	Takeshi Takahashi	119201	1908

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OLIFF & BERRIDGE, PLC
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER	
HODGE, ROBERT W	
ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
08/24/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/806,206	TAKAHASHI ET AL.	
	Examiner	Art Unit	
	ROBERT HODGE	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,17,19 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,17,19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/22/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/17/09 has been entered.

Response to Arguments

Applicant's arguments filed 7/17/09 have been fully considered but they are not persuasive. Applicants' arguments are not commensurate with the scope of the claims. Instant claim 2 is drawn to a product not a process of making, and instant claims 17, 19 and 20 all contain Product-by-Process limitations. However as has been stated to applicants before; Product-by-Process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. Applicants arguments focus on the methods used by the prior art and argue that because the prior art does not teach the same methods that the prior art is not applicable. However as stated above applicants claims are not process claims. As has also been stated to applicants, a Prima Facie case of obviousness has been made, thereby shifting the burden to applicants to prove in the form of evidence that the instant invention has unexpected results when compared to the closest prior (i.e. the combination of Watanabe and

Inoue), applicants have still not met their burden of proof. With regards to the claim amendments, it is quite clear that both Watanabe and Inoue teach that the lithium cobaltate is a particle and with regards to the zirconium and magnesium being "uniformly dispersed", it is submitted that both Watanabe and Inoue teach methods that will cause the zirconium and magnesium to be uniformly dispersed. Specifically Watanabe teaches suspending the particles then forming a paste and then applying the paste to a plate with a rolling technique (paragraph [0012]) and Inoue teaches that the protective layer is painted on one or both surfaces of an electrode (paragraph [0011]).

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 7/22/09 was filed after the mailing date of the Final Office Action on 3/18/09. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-319260 hereinafter Watanabe in view of JP 09-147916 Inoue.

As discussed in the instant specification background section and verified through an official English translation Watanabe teaches a positive electrode active material for

a nonaqueous electrolyte secondary battery comprising $LiCoO_2$ particles that are covered with Li_2ZrO_3 which provides a stable positive electrode. As a result, a positive electrode active material exhibiting excellent cycle characteristics and storage characteristics can be obtained without causing a decomposition reaction of an electrolytic solution or crystal destruction even at high potentials (whole document and instant specification page 2, second paragraph). It is submitted that the method of Watanabe will cause the Li_2ZrO_3 to be uniformly dispersed on the $LiCoO_2$ particles since Watanabe teaches suspending all of the particles then forming a paste and then applying the paste to a plate with a rolling technique (paragraph [0012]) and therefore the burden is shifted to applicants to prove in the form of evidence otherwise.

Watanabe does not teach magnesium oxide on the surface of the lithium cobaltate.

Inoue teaches a spirally wound nonaqueous electrolyte secondary battery comprising a strip positive electrode having a positive electrode current collector, a positive active material layer comprising $LiCoO_2$ particles that are covered with a protective layer such as MgO, which achieves high voltages and high cyclability. Inoue further teaches a strip negative electrode having a negative electrode current collector and a negative active material is a carbon compound or a compound that is capable of intercalating and deintercalating lithium ions and a strip separator between and laminated with the positive and negative electrodes (Abstract, paragraphs [0004]-[0014], [0036] and [0060]). It is submitted that the method of Inoue will cause the MgO to be

uniformly dispersed on the $LiCoO_2$ particles since Inoue teaches that the protective layer is painted on one or both surfaces of an electrode (paragraph [0011]).

At the time of the invention it would have been obvious to one having ordinary skill in the art to further provide a layer comprising magnesium oxide on the positive active material layer of Watanabe as taught by Inoue in order to provide a nonaqueous electrolyte secondary battery that achieves high voltages and high cyclability with excellent safety. If a technique has been used to improve one device (providing a protective layer comprising magnesium oxide on a positive active material layer comprising $LiCoO_2$ in Inoue), and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way (providing a protective layer comprising magnesium oxide on the positive active material layer comprising $LiCoO_2$ in Watanabe), using the technique is obvious unless its actual application is beyond his or her skill. See MPEP 2141 (III) Rationale C, KSR v. Teleflex (Supreme Court 2007).

It would have also been obvious to one having ordinary skill in the art to form the positive active material of Watanabe as modified by Inoue such that the "existence ratio" of zirconium and magnesium respectively on the surface of the lithium-transition metal oxide is greater than 20% in order to reduce the friction force among the active materials thereby increasing the flowability of the active material so that the positive electrode film has a higher density thus increasing the charge/discharge characteristics of the battery and also increasing the capacity of the battery. It further would have been obvious to optimize the "existence ratio" of zirconium and magnesium respectively on the surface of the lithium-transition metal oxide of Watanabe as modified by Inoue since

it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art, in the absence of unexpected results. In re Boesch, 617 E.2d 272, 205 USPQ 215 (CCPA 1980). Therefore the burden is shifted to applicants to prove in the form of evidence that the invention of Watanabe as modified by Inoue does not exhibit the same existence ratios as the instantly claimed invention. Furthermore a skilled artisan would understand that the product of Watanabe as modified by Inoue will have uniformly dispersed zirconium and magnesium on the $LiCoO_2$ particles since they both teach that the zirconium and magnesium are uniformly dispersed respectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HODGE whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Hodge/
Examiner, Art Unit 1795